CLAIMS

1. A swing frame structure for construction machinery, said swing frame structure being to be arranged in a swing upperstructure and having a center frame composed of side plates and a reinforcement plate joined each other, wherein:

said swing frame structure is provided with mating portions for bringing said side plates and said reinforcement plate into engagement with each other such that said side plates and said reinforcement plate are positioned relative to each other.

2. A swing frame structure according to claim 1, wherein said mating portions comprise plug-in structure portions, respectively.

3. A swing frame structure according to claim 2, wherein said plug-in structure portions comprise holes formed through said side plates and lugs formed on said reinforcement plate such that said lugs can be inserted into said holes, respectively.

4. A swing frame structure according to claim 3, wherein said side plates are arranged facing each other and in a pair on opposite side edge portions of said reinforcement plate, respectively, said holes are formed through said side plates, and said lugs to be inserted into said holes are formed on said opposite side edge portions of said reinforcement plate, respectively.

5. A swing frame structure according to claim 3 or 4, wherein said side plates are each provided with a lifting hole

for enabling to lift said construction machinery, a hole for a boom foot pin and a hole for a boom cylinder pin, and said holes in each of said side plates are each formed at a position below a line connecting a center of the corresponding hole for said boom foot pin with a center of the corresponding lift hole but above a line connecting a center of the corresponding hole for said boom cylinder pin and said center of the corresponding lift hole.

6. A swing frame structure for construction machinery, said swing frame structure being to be arranged in a swing upperstructure and having a center frame composed of side plates and a bottom plate joined each other, wherein:

said swing frame structure is provided with mating portions for bringing said side plates and said bottom plate into engagement with each other such that said side plates and said bottom plate are positioned relative to each other.

7. A swing frame structure according to claim 6, wherein said mating portions comprise plug-in structure portions, respectively.

8. A swing frame structure according to claim 7, wherein said plug-in structure portions are positioned on a side outer than a swing-circle-mounting surface.

9. A swing frame structure according to claim 7, wherein said plug-in structure portions comprise holes formed through said bottom plate and lugs formed on said side walls such that

said lugs can be inserted into said holes, respectively.

10. A swing frame structure according to claim 9, wherein said side plates are arranged in a pair and opposite said bottom plate, said lugs are formed on said side plates, respectively, and said holes in which said lugs are to be inserted are formed through said bottom plate.

11. A swing frame structure for construction machinery, said swing frame structure being to be arranged in a swing upperstructure and having a tail frame composed of engine brackets and side plates of frame members joined each other, wherein:

said swing frame structure is provided with mating portions for bringing said engine brackets and said side plates of said frame members into engagement with each other such that said engine brackets and said side plates of said frame members are positioned relative to each other.

12. A swing frame structure according to claim 11, wherein said mating portions comprise plug-in structure portions, respectively.

13. A swing frame structure according to claim 12, wherein said plug-in structure portions comprise holes formed through said side plates of said frame members and lugs formed on said engine brackets such that said lugs can be inserted in said holes, respectively.

14. A swing frame structure according to claim 13, wherein

said frame members are arranged in a pair and facing opposite end portions of said engine brackets, respectively, said holes are formed through said side plates of said frame members, and said lugs to be inserted into said holes are formed on said opposite end portions of said engine brackets, respectively.

15. A swing frame structure according to claim 11, wherein said frame members comprise I-beams, respectively.

16. A swing frame structure according to any one of claims 13 through 15, wherein said holes are positioned on neutral axes of said side plates of said frame members, respectively.

17. A swing frame structure for construction machinery, said swing frame structure being to be arranged in a swing upperstructure and being composed of a tail frame including frame members with upper flanges and a center frame including side plates, said upper flanges of said frame member and said side plates having been joined each other by welding, wherein:

said upper flanges of frame members are provided with openings formed at front end portions thereof, and said side plates are inserted in said openings, respectively.

18. A swing frame structure according to claim 17, wherein said side plates are provided with stepped portions at portions thereof which are facing said openings of said upper flanges, respectively, and a height dimension of an upper step face and a lower step face, between which said stepped portion of each side plate is defined, is set greater than a thickness dimension

of the corresponding one of said upper flanges.

19. A swing frame structure according to claim 18, wherein weld portions are formed between said stepped portions of said side plates and walls of said openings of the corresponding upper flanges, between the upper faces of said upper flanges and side walls of the corresponding side plates, between front end faces of said upper flanges and said side walls of the corresponding side plates, and between lower faces of said upper flanges and said side walls of the corresponding side plates, respectively.

20. A swing frame structure according to claim 17, wherein said openings are each formed in a turned, square U shape as viewed in plan.

21. A swing frame structure according to claim 17, wherein said front end portion formed in said front end portion of each of said upper flanges is formed in a tapered shape as viewed in plan.